STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Ameren Transmission Company of Illinois	:	
	:	
Petition for a Certificate of Public Convenience and Necessity, pursuant to Section 8-406.1 of the Illinois Public Utilities Act, and an Order pursuant to Section 8-503 of the Public Utilities Act, to Construct, Operate and Maintain a New High Voltage Electric Service Line and Related Facilities in the Counties of Adams, Brown, Cass, Champaign, Christian, Clark, Coles, Edgar, Fulton, Macon, Montgomery, Morgan, Moultrie, Pike, Sangamon, Schuyler, Scott, and Shelby, Illinois.	:	No. 12-0598 On Rehearing

INITIAL BRIEF ON REHEARING OF MOULTRIE COUNTY PROPERTY OWNERS

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December 30, 2013

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INITIAL BRIEF ON REHEARING OF THE MOULTRIE COUNTY PROPERTY OWNERS

The Moultrie County Property Owners ("MCPO"), pursuant to Section 200.800 (83 Ill. Adm. Code Part 200.800) of the Rules of Practice of the Illinois Commerce Commission ("ICC" or "Commission") and the briefing schedule set by the Administrative Law Judges ("ALJs") in this proceeding on rehearing, present this Initial Brief for the Commission's consideration.

I.

INTRODUCTION

Ameren Transmission Company of Illinois ("ATXI") petitioned this Commission for a Certificate of Public Convenience and Necessity, pursuant to Section 8-406.1 of the Illinois Public Utilities Act ("Act") and an Order pursuant to Section 8-503 of the Act to construct, operate and maintain approximately 375 miles of 345 kV electric transmission line and new and expanded substations beginning at the Mississippi River near Quincy, Illinois and ending at the Indiana border near Sugar Creek, Indiana, referred to as the Illinois River Project ("IRP"). (*See*, 220 ILCS 5/8-406.1 and 5/8-502; ATXI Initiating Petition, ¶¶ 8-9).

On August 20, 2013, the Commission entered an Order granting ATXI authority under Section 8-406.1 to construct, operate and maintain the new transmission line. (*Ameren Transmission Company of Illinois, Petition for Certificate of Public Convenience and Necessity*, etc., ICC Dkt. 12-0598, Final Order, August 20, 2013 ("August 20 Order")).

On October 2, 2013, the Commission granted certain Applications for Rehearing in this proceeding. Specifically, the Commission granted the Application for Rehearing of ATXI; the

Application for Rehearing of the Coalition of Property Owners and Interested Parties in Piatt, Douglas and Moultrie Counties and Channon Family Trust ("PDM"); the Application for Rehearing of the Morgan, Sangamon, and Scott County ("MSSCLPG"); and the Midcontinent Independent System Operator, Inc., ("MISO").

In its August 20 Order, the Commission refused to approve the Pawnee to Pana and Pana to Mt. Zion transmission line portions of the IRP on the grounds that the record lacked evidence that those routes were the least-cost routes relative to a Pawnee to Kincaid to Mt. Zion route mentioned by the Staff. (August 20 Order at 83-84). In addition, the Commission did not approve construction of substations at Ipava, Kansas, Sidney and Rising due to a lack of evidence on the need for more space for the construction of the new substation facilities at existing substation facility sites. (August 20 Order at 55, 120-121, and 129).

The Commission initially approved a portion of the Pana to Kansas transmission line segment, referred to as the "MZK" route from the existing Kansas substation west to the Macon County line. (August 20 Order at 100). The Commission did not approve the exact location of the new Mt. Zion substation. (August 20 Order at 86 and 100).

Subsequently, the Commission granted rehearing to consider additional evidence on the appropriate routes for the route segments it had not approved (Pawnee to Pana and Pana to Mt. Zion), and the Ipava, Kansas, Sidney and Rising substations. In addition, the Commission granted rehearing to consider the line route segments from Meredosia to Pawnee and Mt. Zion to Kansas.

MCPO addresses the following rehearing issues:

1. the location of the substation at Mt. Zion;

2. the transmission line route segment from Mt. Zion to Kansas.

MCPO concludes that regardless of the substation location, the Commission should continue to approve Route MZK.

MCPO Witnesses and Testimony

MCPO consists of owners of real property in Moultrie County, Illinois, affected by the Primary and/or Alternate Routes initially proposed by ATXI for the Mt. Zion to Kansas segment of its project. MCPO presented direct and rebuttal testimony in the original proceeding and rebuttal and surrebuttal testimony on rehearing. In the original proceeding, it presented the direct and rebuttal testimony of James R. Dauphinais of the firm of Brubaker & Associates, Inc., and Mr. Rudolph K. Reinecke of the firm Integrated Environmental Solutions.[1] MCPO also presented the rebuttal testimonies of Mr. Robert G. Fischer and Mr. Greg Sanders in the original proceeding.[2] On

[1] Direct testimony of James R. Dauphinais - MCPO Ex. 1.0 (Public and Confidential version) and MCPO Exs. 1.1 through and including 1.32 (Public) and Exs. 1.28, 1.29, 1.30, 1.31, and 1.32 (Confidential). Direct Testimony of Rudolph K. Reinecke - MCPO Ex. 2.0 and MCPO Exs. 2.1 (Corrected), 2.2 (Corrected), 2.3, 2.4, 2.5, 2.6, and 2.7. Rebuttal Testimony of Mr. Dauphinais - MCPO Ex. 3.0. Rebuttal Testimony of Mr. Reinecke - MCPO Ex. 4.0.

[2] Rebuttal Testimony of Robert G. Fischer, MCPO Ex. 5.0, 5.1 and 5.2. Rebuttal Testimony of Greg Sanders, MCPO 6.0. Both Mr. Fischer and Mr. Sanders' rebuttal testimonies were admitted into evidence by Affidavit, MCPO Exs. 5.3 and 6.1.

rehearing, MCPO presented the rebuttal and surrebuttal testimonies of Mr. Dauphinais and Mr. Reinecke.[3]

Mr. Dauphinais is a Managing Principal of Brubaker & Associates, Inc. His qualifications and background were discussed in his direct testimony in the original proceeding. (Dauphinais, MCPO Ex. 1.0 at 1-2:9-22 and App. A at 1-3). In summary, Mr. Dauphinais is an electrical engineer and a former Senior Transmission Planning Engineer for Northeast Utilities, with experience in electric utility transmission operations, planning and routing. He is also familiar with and has conducted power flow studies. (Dauphinais, MCPO Ex. 1.0, App. A at 2-5).

In his rebuttal testimony on rehearing, Mr. Dauphinais presented testimony relating to the portion of the IRP extending from Mt. Zion to Kansas, the Pana to Mt. Zion segment of the IRP, the location of the proposed Mt. Zion Substation, and the use of a portion of Staff's Kincaid to Mt. Zion route for access to Staff's proposed Option #1 and Option #2 substations. (*See*, Dauphinais, MCPO Ex. 1.0 (RH) 2C and 3.0 (RH) C generally). Mr. Dauphinais concludes that ATXI's proposed Sulphur Spring Road site is still the best site for the Mt. Zion substation. However, in terms of reliability, Staff's proposed Option #1 and Option #2 sites might be viable alternatives to the Sulphur Spring Road site. From a reliability standpoint, he concludes the Staff's proposed Option #3 site for the Mt. Zion substation is not likely a viable alternative to the Sulphur Spring Road site (or the

[3] Rebuttal Testimony on Rehearing of: James R. Dauphinais, MCPO Ex. 1.0 (RH) 2C, MCPO Exs. 1.1 (RH), 1.2 (RH) 2C, 1.3 (RH) C, 1.4 (RH) and 1.5 (RH); and Rebuttal Testimony on Rehearing of Rudolph K. Reinecke, MCPO Ex. 2.0(RH), MCPO Exs. 2.1 (RH), 2.2 (RH) Revised and 2.3 (RH). Surrebuttal testimony on rehearing of Mr. Dauphinais, (MCPO Ex. 3.0 (RH) C and Surrebuttal Testimony on Rehearing of Mr. Reinecke, (MCPO Ex. 4.0 (RH) and MCPO Exs. 4.1 (RH) and 4.2 (RH).

Option #1 or Option #2 sites). Finally, Mr. Dauphinais concludes that regardless of whether the Mt. Zion substation is located at the Sulphur Spring Road site, Staff's Option #1 site or Staff's Option #2 site, MCPO's route from the Mt. Zion substation, the "MZK" Route, has less adverse impact to the public than PDM's Channon Family Trust ("CFT") Route from those substation locations. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 24-25:559-577).

MCPO witness Reinecke is the Vice-President and Project Manager for Integrated Environmental Solutions. He has 16 years experience in environmental projects and surveys, including the development and study of transmission line routing analysis. (Reinecke, MCPO Ex. 2.7 at 1 and 3). He has previously testified with regard to such analyses before state and federal regulatory and permitting bodies. (Reinecke, MCPO Ex. 2.0, App. A at 1-2 and MCPO Ex. 2.7 at 1, 3). He also has extensive experience in natural resource planning projects, waters of the United States permitting projects and pipeline routing surveys. (Reinecke, MCPO Ex. 2.7 at 1-2).

On rehearing, Mr. Reinecke prepared a comparative analysis for the evaluation of routing factors for nine route permutations for various routes associated with three possible Mt. Zion substation locations (the Mt. Zion Sulphur Spring Road site, Staff Option #1 site and Staff Option #2 site) using variations of Route MZK, Route CFT, and the original ATXI alternate route from Mt. Zion to Kansas. He defined his methods for routing along opportunities as defined on page 2 of MCPO Exhibit 2.0 and the use of field lines as proxies for property lines. He also discusses Prime Farmland issues. (*See*, Reinecke, MCPO Ex. 2.0 (RH) and MCPO Ex. 4.0 (RH)).

II. LEGAL STANDARD

The Commission must consider whether ATXI should receive a Certificate of Public Convenience and Necessity ("Certificate") for certain route segments and substation locations that are the subject of this rehearing. Consideration must be given to Section 8-406.1 of the Act. (220 ILCS 5/8-406.1). Under Section 8-406.1, the Commission is to grant a Certificate if:

> . . . it finds the project will promote the public convenience and necessity and all of the following criteria are satisfied:
>
> 1. That the project is necessary to provide adequate, reliable, and efficient service to the public utilitys' customers and is the least-cost means of satisfying the service needs of the . . . customers, or that the Project will promote the development of an effectively competitive electricity market that operates efficiently, is equitable to all customers, and is the least cost means of satisfying those objectives.
>
> 2. That the public utility is capable of efficiently managing and supervising the construction process and has taken sufficient action to ensure adequate and efficient construction and supervision of the construction.
>
> 3. That the public utility is capable of financing the proposed construction without significant adverse financial consequences for the utility or its customers.
>
> (220 ILCS 5/8-406.1(f), (1), (2), and (3)).

On rehearing, it appears that the only criteria from Section 8-406.1 to be applied in this case is the first criteria. (220 ILCS 5/8-406.1(f)(1)). In particular, the Commission must determine if the route segments still in dispute and the remaining substation sites and locations are necessary to provide efficient service and represent the least cost means of doing so. The Commission has

already found that the 345 kV line represented by the IRP is necessary to address transmission and reliability needs in an efficient and equitable manner, and will benefit the development of the competitive electricity market. (August 20 Order at 14). However, the Commission reserved for itself the right to determine whether a particular route or the construction of a particular substation was appropriate and necessary. (August 20 Order at 14).

In addition, the Commission has stated that:

> Resolving the question of least-cost involves a comprehensive consideration and balancing of the overall costs and externalities of each proposed route against the benefits of each proposed route. The costs and externalities include not only the financial tally for manpower and equipment, but also the impact of local residents and resources and present and future land uses.
> (*Id.*).

In applying the least cost standard, the Commission should consider and balance all relative criteria. In prior consideration of the least-cost standard, the Commission has observed that its Staff and Ameren have previously agreed "... that proper consideration of 'least-cost' is not made in isolation, but involves the comprehensive consideration and balancing of overall costs and benefits of the respective ('routing') proposals; . . .." (*Illinois Power Company*, d/b/a AmerenIP and Ameren Illinois Transmission Company, ICC Dkt. 06-0179, Final Order, May 16, 2007 at 16). That balancing of overall costs and benefits has allowed the Commission, in the past, to select routes that were longer and more costly because the selected route impacted fewer homes. (*Id.* at 16-17).

III. PROJECT CONNECTION THROUGH KINCAID VERSUS PANA

MCPO has not addressed this issue on rehearing. It continues to support ATXI's primary route from Pana to Mt. Zion as part of the stipulated route. But as indicated below, could accept the

use of a portion of Staff's Kincaid to Mt. Zion route as it extends east from the ATXI primary route from Pana to Mt. Zion to Staff's Option #1 and #2 substation sites in combination with the ACPO/ATXI Stipulated Route from Mt. Zion to Kansas.

IV. REHEARING ROUTES

B. Location of Mt. Zion Substation

As noted above, the appropriate location of the Mt. Zion substation is one of the subjects of this rehearing. MCPO presented a power flow analysis in its direct case in the original proceeding (Dauphinais, MCPO Ex. 1.0 at 50-52:1105-1155) that confirmed ATXI's proposed Sulphur Spring Road location for the Mt. Zion substation is sufficient to address the low voltage issue that is intended to be addressed by the Mt. Zion substation. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 5-6:98-108). On rehearing, MCPO presented evidence that the Staff Option #1 and Option #2 sites for the Mt. Zion substation may be electrically close enough to northeastern Decatur such that these two sites could be sufficient to address the low voltage reliability issue. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 7:130-145). However, it is unlikely that the Staff Option #3 site for the Mt. Zion substation would be sufficient to address the low voltage issue in the northeastern portion of Decatur. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 7:146-148). As noted above, Mr. Dauphinais is a former Senior Transmission Planning Engineer for Northeast Utilities. Based on his experience, and the power flow analysis he performed in his direct testimony, he believes that Staff Option #3 would place the new 345 kV transmission source needed to address the low voltage issue in the Decatur area too far away from the area of greatest reactive power need (northeastern Decatur) for it to be sufficient to address the low voltage issue. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 7-8:146-162).

In addition to the analysis performed by Mr. Dauphinais, ATXI has performed new power flow analyses on rehearing which demonstrate that Staff Option #3 substation site will not allow the Company to properly address the low voltage issues in Decatur. (Kramer, ATXI Ex. 4.0 (RH) Rev. at 7-9:143-181). Overall, it appears that the Sulphur Spring Road site would best address the Decatur low voltage issue.

ATXI has entered into a Stipulation with the Village of Mt. Zion agreeing to the use of the Option #2 substation site. (*See*, ATXI Stipulation Ex. 1 (RH)). This site may be sufficient to address the reliability issues in Decatur. However, the Sulphur Spring Road site is closest to the load center (Decatur) that drives the need for the Mt. Zion substation as an "exit ramp" for the IRP. (Hackman, ATXI Ex. 2.0 (RH) at 24:541-542). Voltage support will not be as good from a substation built further away. Furthermore, should the new facilities reach their capacity because of further development in the Decatur area, there would have to be a greater number of 138 kV circuits of long lengths to get to the load center. (Hackman, ATXI Ex. 2.0 (RH) at 25:545-548). The cost of these circuits would have to be recovered from Ameren Illinois ratepayers and would not be shared throughout the MISO region. Finally, according to ATXI, it is good utility practice to put all substations, regardless of their voltage, as close to the load center they serve as possible. (*Id.* at 25:549-551).

Regardless of the substation site selected for the Mt. Zion substation, MCPO believes that its MZK route (as adjusted to connect with the site selected by the Commission for the Mt. Zion substation), is the appropriate route for the Mt. Zion to Kansas transmission line segment. If used in conjunction with route MZK, MCPO does not object to the use of the substation Option #2 in

conjunction with ATXI's modified primary route from Pana to Mt. Zion, which incorporates portions of the Staff's Kincaid to Mt. Zion route proposal. (The portion of the Staff Kincaid to Mt. Zion Route incorporated into the ATXI Primary Pana to Mt. Zion route runs east from its intersection with the ATXI Primary Route from Pana to Mt. Zion to the Option #2 substation location. (Murphy, ATXI Ex. 6.0 (RH) at 4:67-70).[4]

D. Mt. Zion to Kansas

MCPO witness Dauphinais presented, in his rebuttal testimony on rehearing, a routing analysis for MCPO's MZK route, CFT's route and ATXI's Alternate Route alternatives for the Mt. Zion to Kansas portion of the IRP originating at each of the following alternative proposed sites for ATXI's Mt. Zion substation: ATXI's Sulphur Spring Road site, ICC Staff's Option #1 site and ICC Staff's Option #2 site (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 10-20: 209-462). Specifically, he evaluated the following nine route alternatives:

- Using ATXI's Sulphur Spring Road Mt. Zion substation location:
  - Route MZK: MCPO's Mt. Zion to Kansas route.
  - Route CFT: ATXI's Mt. Zion to Kansas Primary Route from ATXI's Sulphur Spring Road Mt. Zion substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation.
  - Route ATXIA: ATXI's Mt. Zion to Kansas Alternate Route.
- Using ICC Staff's Option #1 Mt. Zion substation location:

[4] To the extent this altered ATXI primary route from Pana to Mt. Zion is not determined to be viable by the Commission, MCPO continues to support the use of ATXI's Primary Route from Pana to Mt. Zion.

- Route MZK-1: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #1 Mt. Zion substation site north to the junction with MCPO's Mt. Zion to Kansas route and then MCPO's Mt. Zion to Kansas route from the junction east to Kansas substation.

- Route CFT-1: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #1 Mt. Zion substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation.

- Route ATXIA-1: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #1 Mt. Zion substation site north to its junction with ATXI's Mt. Zion to Kansas Alternate Route and then ATXI's Mt. Zion to Kansas Alternate Route from the junction east to Kansas substation.

• Using ICC Staff's Option #2 Mt. Zion substation location:

- Route MZK-2: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #2 Mt. Zion substation site north to the junction with MCPO's Mt. Zion to Kansas route and then MCPO's Mt. Zion to Kansas route from the junction east to Kansas substation.

- Route CFT-2: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #2 Mt. Zion substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation.

- Route ATXIA-2: ATXI's Mt. Zion to Kansas Primary Route from ICC Staff's Option #2 Mt. Zion substation site north to its junction with ATXI's Mt. Zion to Kansas Alternate Route and then ATXI's Mt. Zion to Kansas Alternate Route from the junction east to Kansas substation.
(Dauphinais, MCPO Ex. 1.0 (RH) 2C at 10-11:211-256).

MCPO provided Maps for each of these nine route options from Mt. Zion to Kansas. (Reinecke's Ex. 2.1 (RH)). Routing factors and paralleling information for all nine routes were also provided (Reinecke's MCPO Exs. 2.2 (RH) Rev. and 2.3 (RH)). In compiling the aforementioned routing factor data, Mr. Reinecke continued to use the same definition as ATXI for Prime Farmland.

Mr. Reinecke calculated the amount of Prime Farmland within the 500-foot analysis corridor using data from the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), which classifies the soil series as to whether they have the potential to meet the definition of Prime Farmland. (Reinecke, MCPO Ex. 2.0 (RH) at 10:240-244). This USDA NRCS method of classifying the Prime Farmlands has been used for the entire route for the Illinois River Project and has been used as an estimation of impacts to Prime Farmland on this project through the original proceedings. (*See*, ATXI Ex. 4.3, App. A at 88 of 94). This method appears to be more accurate and a better reflection of Prime Farmlands, than Productivity Indices (PI) advocated by PDM witness Ms. Burns. (*See*, Reinecke, MCPO Ex. 2.0 (RH) at 11-12:260-286). The USDA NRCS methodology provides a classification of unmanaged soils, as they exist without any improvements, such as drainage. The PI method assumes that all soils are managed at the optimum level such as all drainage practices are in place and operational. (Burns, PDM Ex. 6.0 at 10:193-195). As drainage and other management practices cannot be measured or assumed to be in proper operation, the USDA NRCS definitions are more conservative measure that makes no assumption about such practices. (Reinecke, MCPO Ex. 2.0 (RH) at 12:283-286).

In any event, regardless of the method used to measure Prime Farmland, the record shows that there are only 1.55 acres, of the 4,489 agricultural acres within the 150 foot easement for the entire ATXI Primary Route for the IRP project, taken out of production. (*See*, Dauphinais, MCPO Ex. 1.0 (RH) 2C at 19:441-450 - quoting ATXI witness Trelz). Thus, the impact of the transmission line on agricultural land is minimal.

Routes MZK, MZK-1 and MZK-2 showed a significant degree of superior performance with regard to ATXI's Phase I High Sensitivity routing factors versus Routes CFT, CFT-1 and CFT-2 when a close examination of the six Phase I High Sensitivity routing factors is made. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 12-13:265-297). Specifically, Mr. Dauphinais compared Route CFT-1, the best performing of all the ATXIA and CFT Routes, to Routes MZK, MZK-1 and MZK-2. This analysis demonstrates that, although placing only 90 (5.3%) to 109 (6.4%) more acres of Prime Farmland[5] within the 500-foot analysis corridor, the MZK routes placed:

- 15 (48.4%) to 19 (61.3%) fewer residences within 500 feet of the centerline of the route than Route CFT-1;
- 14 (66.7%) to 16 (76.2%) fewer residences within 300 feet of the centerline of the route than Route CFT-1; and
- 7 (77.8%) to 9 (100%) fewer residences within 150 feet of the centerline of the route than Route CFT-1.

(Dauphinais, MCPO Ex. 1.0 (RH) 2C at 12-13:284-293 and MCPO Ex. 1.2 (RH) 2C).

MCPO also demonstrated that Routes MZK, MZK-1 and MZK-2 outperformed all the CFT and ATXIA Routes with regard to ATXI's Phase II High Sensitivity routing factors, which included Agricultural Use Areas, Existing Residences, Wooded Areas, Protected Species Habitat/Location, Wetlands and Waterways, Cultural Resources and Recreational Use Areas. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 13-14:298-320 and MCPO Ex. 1.3 (RH) C).

With regard to paralleling opportunities, MCPO showed that Routes MZK, MZK-1 and MZK-2 were clearly superior winners versus all CFT and ATXIA Routes with regard to paralleling

[5] Consistent with Mr. Reinecke, Mr. Dauphinais continued to use the same definition as ATXI with regard to Prime Farmland. (*See*, ATXI Ex. 4.3, App. A at 88 of 94 for the definition).

opportunities since existing transmission lines, major roads and railroads represent existing linear infrastructure with much more significant visual impact, noise impact, environmental fragmentation than minor roads, other utility right-of-way or Section Lines (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 14-18:327-414 and MCPO Ex. 1.4 (RH)).

Routes MZK, MZK-1 and MZK-2 do have an estimated baseline construction cost that is $14.4 million (12.2%) to $17.8 million (15.0%) greater than that for the Route CFT-1 – the lowest estimated baseline cost route of Routes CFT, CFT-1 and CFT-2. (Dauphinais, MCPO Ex 1.0 at 14:321-326). However, when weighed against Phase I High Sensitivity routing factor performance, Phase II High Sensitivity routing factor performance and paralleling opportunity performance, Routes MZK, MZK-1 and MZK-2 have the least adverse impact to the public of the nine route options examined for the Mt. Zion to Kansas portion of the IRP (Routes MZK, MZK-1, MZK2, CFT, CFT-1, CFT-2, ATXIA, ATXIA-1 and ATXIA-2). (Dauphinais, MCPO Ex. 1.0 (RH) at 18-20:415-454). Furthermore, it is important to note that, due to the sharing of costs for MISO multi-value projects, the actual increased estimated baseline construction costs noted above to Illinois' customers will only be approximately $1.3 million to $1.6 million (9% x $14.4 to $17.8 million) for Illinois customers. (*See*, Rockrohr, Staff Ex. 1.0R at 149-156; *see also*, Hackman, ATXI Ex. 2.0 (RH) at 29:538-539).

Mr. Dauphinais also reviewed all of the remaining routing factors presented in MCPO Exhibit 2.2 (RH) Revised and that review did not lead to any different conclusion with regard to the relative benefits of Routes MZK, MZK-1, MZK-2 versus Routes CFT, CFT-1, CFT-2, ATXIA, ATXIA-1 or ATXIA-2 (Dauphinais, MCPO Ex 1.0 (RH) 2C at 20:455-462).

Finally, there are significant incremental benefits gained from the additional total length and estimated construction cost of Routes MZK, MZK-1 and MZK-2 versus the best performing of the three CFT routes – Route CFT-1. (Dauphinais, MCPO Ex 1.0 (RH) 2C at 20-21:465-476). Specifically, Mr. Dauphinais testified, the principal incremental adverse impacts of Routes MZK, MZK-1 and MZK-2 compared to Route CFT-1 (the best performing of the six CFT and ATXIA route options) are as follows:

- 8.1 miles (13.3%) to 9.6 miles (15.7%) of additional route length (MCPO Exhibit 2.2 (RH) Rev. at page 1);
- $14.4 million (12.2%) to $17.8 million (15.0%) of greater estimated baseline construction cost (MCPO Exhibit 1.2 (RH)) (only $1.3 million to $1.6 million greater for Illinois' customers once MISO multi-value project cost sharing is considered as discussed above); and
- 90 (5.3%) to 108 (6.4%) more acres of Prime Farmland within the 500-foot analysis corridor (*Id.*).

(Dauphinais, MCPO Ex. 1.0 (RH) 2C at 21:476-484 and MCPO Ex. 2.2 (RH) Rev.).

In exchange, compared to Route CFT-1 (the best performing of all the CFT Routes), Mr. Dauphinais testified that Routes MZK, MZK-1 and MZK-2 have provide the following significant benefits among others:

- 15 (48.4%) to 19 (61.3%) fewer residences within 500 feet of the centerline of the route (MCPO Exhibit 1.2 (RH));
- 14 (66.7%) to 16 (76.2%) fewer residences within 300 feet of the centerline of the route (*Id.*);
- 7 (77.8%) fewer residences within 150 feet of the centerline of the route (*Id.*);
- 77 (60.0%) to 78 (60.5%) fewer non-residential structures within 500 feet of the centerline of the route (MCPO Exhibit 2.2 (RH) at page 4);

- 46 (71.9%) to 54 (84.4%) fewer non-residential structures within 300 feet of the centerline of the route (*Id.*);

- 19 (79.2%) to 22 (91.7%) fewer non-residential structures within 150 feet of the centerline of the route (*Id.*);

- there are no non-residential structures within the 150 foot easement of the MZK routes that would have to be removed versus 6 non-residential structures within the 150 foot easement of the CFT-1 route that might have to be removed (*Id.*); and

- 11.7 (8.2%) to 32.6 (22.8%) fewer acres of wooded areas within the 500 foot analysis corridor (MCPO Exhibit 1.3 (RH)).

(Dauphinais, MCPO Ex. 1.0 (RH) 2C at 21:485-503).

Also while 8.1 to 9.6 miles of additional length is needed for Routes MZK, MZK-1 and MZK-2 versus Route CFT-1, all of that additional length, plus an additional 5.6 to 4.1 miles, respectively, of existing length, is closely parallel to existing electric transmission lines, which helps to mitigate the visual, noise and environmental fragmentation of the new transmission line by placing it where similar visual, noise and environmental fragmentation already exist. (Dauphinais, MCPO Ex 1.0 (RH) 2C at 22:504-509). The Commission has stated that running two lines parallel to one another minimizes the visual impact of a 345 kV line. (August 20 Order at 100).

Finally, it is important to recognize the limited nature of the impacts on Prime Farmland being placed within the 500-foot analysis corridor. Specifically, the placement of a new transmission line in cultivated lands or pasture land (even where there is Prime Farmland) only removes from production the land at, and very close to, the foundation of the associated structures. In addition, the overhead wires between the structures neither remove land from production nor introduce any significant agricultural fragmentation. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 22:510-516).

Regardless, these impacts are essentially economic in nature.

On the other hand, large transmission lines located near residences results in more than just adverse economic impacts. They directly impact quality of life and safety concerns for people, in addition, to the economic impact on home values. In past cases the Commission has believed that minimization of residential impacts was especially important in the case of a high-voltage 345 kV transmission line. In Docket 06-0179 the Commission stated that avoidance of residential structures was a consideration that was ". . . especially important inasmuch as the line in question is not a low or medium voltage line; rather; it is a high-voltage 345 kV line." (*Illinois Power Company*, d/b/a AmerenIP and Ameren Illinois Transmission Company, ICC Dkt. 06-0179, Final Order, May 16, 2007 at 17). Likewise, in the case at bar, the Commission is dealing with the location of a high-voltage 345 kV line.

Based on this analysis, MCPO recommends the Commission select MCPO's route from Mt. Zion to Kansas (Routes MZK, MZK-1 or MZK-2) regardless of which site the Commission selects for Mt. Zion substation.[6]

a. Mt. Zion to Kansas From Sulphur Spring Road Substation Location - Comparison of Commission Routing Factors

If the Commission selects ATXI's proposed Sulphur Spring Road site for the Mt. Zion substation, the parties are currently offering two route alternatives for the Mt. Zion to Kansas portion

[6] Because the route selection for the route segment will be a function of the ultimate substation location, MCPO has provided information by substation location on the twelve criteria identified in the common outline. Because no party on rehearing has advocated the use of ATXI's Alternate Route (Routes ATXIA, ATXIA-1 or ATXIA-2) in conjunction with any of the Mt. Zion substation sites under consideration, MCPO addresses only the Routes MZK, MZK-1, MZK-2, CFT, CFT-1, and CFT-2 in discussing the twelve criteria.

of the IRP. ATXI, ICC Staff, and MCPO are supporting Route MZK, which consists of the May 10, 2013, ATXI/MCPO stipulated route from Mt. Zion to Kansas referred to in the direct testimony of MCPO witness Mr. Dauphinais in the original proceeding as "Route Segment MCPO MZK" (Dauphinais, MCPO Ex. 1.0 at 10:177-184, MCPO Ex. 1.2, MCPO Ex. 2.2 Rev., MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 1; Borkowski, ATXI Ex. 7.0 RH at 9:175-188; and Rockrohr Staff Ex. 4.0 (Rehearing) at 17-18:352-368). PDM is supporting Route CFT, which consists of ATXI's Mt. Zion to Kansas Primary Route from ATXI's Sulphur Spring Road substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation, referred to in the direct testimony on rehearing of PDM witness Ms. Burns as the "Channon Hybrid Route" (Burns, PDM Ex. 6.0 at 4-5:59-74, Dauphinais, MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 4). Other routes have been proposed in the past in this proceeding by ATXI and ICC Staff from the ATXI Sulphur Spring Road site for the Mt. Zion to Kansas portion of the IRP. However, Route MZK and Route CFT are the only routes currently being actively proposed by the parties for use with the ATXI Sulphur Spring Road site (Burns, PDM Ex. 8.0 at 4:37-38). As a result, MCPO has confined the summary of routing factor performance below to only Route MZK and Route CFT.

1. Length of the Line

Route MZK is 3.0 miles (4.5%) longer in length than Route CFT (MCPO Ex. 2.2 RH Rev. at 1-3 of 4).[7]

[7] 69.2 miles versus 66.2 miles.

All else held equal, the length of a route affects its cost and adverse impact. However, caution must be used when using length of a route as a factor as often all else is not equal. This in particular is the case in the transmission routing from Mt. Zion to Kansas as discussed below.

2. Difficulty and Cost of Construction

To the best of MCPO's knowledge, ATXI's witnesses have not identified any insurmountable difficulties with constructing Route MZK or Route CFT. In his rebuttal testimony on Rehearing, ATXI witness Mr. Hackman presented his baseline cost estimate for Route MZK as approximately $5.0 million (3.9%) more than Route CFT (ATXI Ex. 5.1 (RH) at 2 of 2).[8] Given the fact that Illinois customers are responsible for only 9% of the IRP costs due to MISO multi-value project cost sharing, there would only be about $450,000 difference in cost for those customers. ($5 million x 9% = $450,000).

3. Difficulty and Cost of Operation and Maintenance

To the best of MCPO's knowledge, no witness testified to any specific differences between Route MZK and Route CFT with regard to the difficulty and cost of operation and maintenance.

4. Environmental Impacts

MCPO witness Mr. Reinecke presented routing factors for the Route MZK and Route CFT for what he described as minimally disturbed areas in MCPO Ex. 4.2 (RH) at 1 of 1. Minimally disturbed areas were defined as area within the 500-foot analysis corridor that has the least disturbed land (i.e., deciduous forest, developed open space, emergent herbaceous wetlands, grassland/herbaceous, open water, pasture/hay, and woody wetlands land uses) use that may contain

[8] $132.53 million versus $127.54 million.

undisturbed natural features. In this context, the existence of fewer acres of minimally disturbed land is a positive feature with regard to route selection. Route MZK has 103 (24.3%) fewer acres of minimally disturbed areas in the 500-foot study corridor area than Route CFT (MCPO Ex. 4.2 (RH) at 1 of 1).[9]

5. Impacts on Historical Resources

MCPO has presented routing factors related to historical resources for both Route MZK and Route CFT. Neither Route MZK nor Route CFT impacts any National Register Historical Places, Known Historic Structures or Archeological Historic sites. (MCPO Ex. 2.2 (RH) at 2 of 4). There are three known archeological sites within the 500-foot study corridor for Route MZK and no archeological sites within the 500-foot corridor for Route CFT. (*Id.*). However, the Commission's August 20, 2013 Order states, "Of [the archeological sites] that may exist, none appear to impair the ability to construct any of the three lines. The MZK route does appear to be marginally preferable in that it is roughly two miles further from the historical Amish areas near the proposed routes." (August 20 Order at 98-99). MCPO witness Mr. Reinecke indicates in his direct testimony that only one of the [three] sites within the 500-foot study corridor of Route MZK is actually crossed by Route MZK. (Reinecke, MCPO Ex. 2.0 at 8:426-432). Furthermore, Mr. Reinecke ultimately concluded the presence of this site will not prevent Route MZK from being constructed. (MCPO Ex. 2.0 at 20:457-463; MCPO Ex. 4.0 at 4-6:68-124).

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[9] 320 acres versus 423 acres.

6. Social and Land Use Impacts

MCPO witness Mr. Reinecke presented routing factors related to social and land use impacts for Route MZK and Route CFT in MCPO Exhibit 2.2 RH Rev. at 1 and 2. Of the social and land use factors, ATXI identified the following as some of the high sensitivity factors in Phase I of ATXI's public meetings:

- Cemeteries
- Churches
- Prime Farmland
- Schools
  (ATXI Ex. 4.0 at 17:359-363).

Route MZK and Route CFT have no churches or cemeteries within their 500-foot study corridors. ATXI data identified two (2) school sites along the MZK route versus four (4) for the CFT route.[10] (MCPO Ex. 2.2 RH Rev. at 2 of 4). Route MZK has 120.2 (6.3%) fewer acres of Prime Farmland, within its 500-foot study corridor, than Route CFT (MCPO Ex. 2.2 RH Rev. at 2 of 4).[11]

It should also be noted that Route MZK is in proximity to the Tuscola Airport. However, the Commission has already taken this fact into account. In the final order of August 20, 2013, the Commission concluded, "Other impacts under this criterion concern two airstrips: the Tuscola Airport along the MZK .... With regard to the Tuscola Airport, while the Commission does not take lightly the concerns of the airport owner, Moultrie PO's witness on this issue is persuasive.

[10] The school sites that have also been identified as schools in PDM Ex. 8.7 at page 8 of 18, and ATXI Ex. 3.1 RH at 2 of 4, could not be confirmed as having school buildings. (MCPO Ex. 2.2 (RH) Rev. at 2 of 4; Tr. Dec. 18 at 245-247).
[11] 1773.3 acres versus 1893.5 acres

Construction of the MZK Route does not appear to be an impediment to the Tuscola Airport's continuing operation. Overall, the Commission finds that this criterion favors the MZK Route." (August 20 Order at 99).

Route MZK is located 2070 feet south of the Tuscola Airport. (Reinecke, MCPO Ex. 2.0 at 24:504). The record shows that Route MZK would comply with the Illinois Department of Transportation's rules and regulations on airport hazards.[12] (Reinecke, MCPO Ex. 2.0 at 24:529-533). Furthermore, ATXI witnesses have testified that Route MZK is "constructable." (Hackman, May 17 Tr. 1020-1022). ATXI witnesses have also indicated that ATXI will comply with aviation related regulatory requirements. (Murphy, ATXI Ex. 4.0 at 46). Thus the record shows that Route MZK is constructable, can be constructed, and is consistent with Illinois airport hazard requirements, if those requirements are applicable.

7. Number of Affected Landowners/Stakeholders

ATXI only has tabulated this information for the two segments that make up the CFT Hybrid Route. The CFT Hybrid route affects approximately 282 landowners within 250' (PDM Ex. 8.7). The number of landowners affected within 250' of the MCPO MZK route has not been quantified in the record.

8. Proximity to Homes and Other Structures

Mr. Reinecke, drawing on information provided by ATXI, provided routing factor information with respect to the proximity to homes and structures. (Reinecke, MCPO Ex. 2.2 (RH)

[12] He did not necessarily believe these hazard requirements specifically applied to the Tuscola Airport. (Reinecek, MCPO Ex. 2.0 at 23:510-512).

Rev. at 4 of 4). Within 75 to 150 feet, Route MZK has 9 (82%) fewer residences than Route CFT.[13] In total, within 500 feet, Route MZK has 19 (54.2%) fewer residences than Route CFT.[14] Within 75 feet of the centerline, Route MZK has 6 fewer non-residential structures than the Route CFT, Route MZK has none. In total, within 500 feet, Route MZK specifically has 88 (63.3%) fewer non-residential structures than Route CFT specifically.[15] (*Id.*).

9. Proximity to Existing and Planned Development

Staff witness Mr. Rockrohr has testified in his surrebuttal testimony that both Route MZK and Route CFT pass through areas of planned development. Both Route MZK and CFT pass through a planned development for the Village of Mt. Zion.[16] In addition, Route CFT passes through a development area along Highway 121, east of Sullivan (ICC Staff Ex. 4.0 (RH) at 17:338-348). It should be noted that Route CFT also would impact the planned development identified by the village of Mt. Zion because both routes use ATXI's Sulphur Spring Road site for Mt. Zion substation and a short section of ATXI's Primary Route from Mt. Zion to Kansas just east of the Sulphur Spring Road site that crosses the boundary of the Village of Mt. Zion. (MCPO Ex. 1.1 (RH) and MCPO Ex. 2.1 (RH) at 1 and 4). Thus, Route MZK passes through one (1) less planned development than Route CFT.

[13] 2 versus 11 homes.
[14] 16 versus 35 homes.
[15] 51 versus 139 non-residential structures.
[16] Staff suggested its route would avoid the Sullivan development area. (*Id.* at 17:341-348).

10. Community Acceptance

Route MZK is supported by many parties. These parties include ATXI, MCPO, STPL, and Shelby County. (Borkowski, ATXI Ex. 7.0 RH at 9:175-188). Of the 15 property owners along any of the routes proposed from Mt. Zion to Kansas (Route MZK), only PDM opposes the stipulated route from Mt. Zion to Kansas (See, Borkowski, ATXI Ex. 7.0 (RH) at 9:186-188). Staff and ATXI support Route MZK. (Borkowski, ATXI Ex. 7.0 (RH) at 9:172-174; Rockrohr, Staff Ex. 4.0 (RH) at 17:352-357).

11. Visual Impact

ATXI witness Ms. Murphy did not tabulate any explicit routing factors related to visual impact. MCPO witness Mr. Dauphinais in his rebuttal testimony on rehearing discussed the use of the existing linear features to avoid introducing new visual impact where none already exists. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 16:357-364). Route MZK parallels 13.7 (1,370.0%) more miles of existing transmission lines than Route CFT.[17] (MCPO Ex. 2.3 (RH)). The Commission, in its August 20 Order, concluded that "Running the two lines parallel to one another will minimize the 345 kV line's visual impact." (August 20 Order at 100).

12. Presence of Existing Corridors

MCPO witness Dauphinais in his direct testimony discussed the importance of considering the paralleling of existing linear features in terms of the length of the route not paralleling such features. By example, he showed that this is important because the routes being compared can potentially have significantly different lengths causing a significantly longer route to potentially

[17] 14.7 miles versus 1.0 mile.

appear to have less impact than a shorter route because the longer route also has more total miles of paralleling. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 15:335-353). He also discussed at length that when evaluating such linear feature paralleling, it is important to work from the most significant type of existing linear feature to the least significant type of existing linear feature. He specifically explained that not all existing linear features are the same with regard to their degree of visual impact, noise impact, environmental fragmentation and/or agricultural fragmentation. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 16:354-387).

Generally, MZK routes were superior versus all the CFT routes with regard to paralleling opportunities since existing transmission lines, major roads and railroads represent existing linear infrastructure with much more significant visual impact, noise impact, environmental fragmentation than minor roads, other utility right-of-way or Section Lines. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 14-18:327-414 and MCPO Ex. 1.4 (RH)).

Mr. Dauphinais summarized his analysis of opportunities for route paralleling in MCPO Ex. 1.4 (RH). Route paralleling opportunities represent opportunities to minimize incremental adverse impacts due to the presence of an existing line structure. MCPO Ex. 1.4 (RH) reveals the relative performance in paralleling by Route MZK versus Route CFT. As can be seen from MCPO Exhibit 1.4 (RH), Route MZK has 10.6 (16.3%) fewer miles that are <u>not</u> parallel to existing transmission lines than Route CFT, thereby increasing the opportunities to minimize incremental adverse impacts compared to the CFT route.[18] Furthermore, only when section lines are added into the analysis does Route CFT have less distance <u>not</u> paralleling existing linear features. (Dauphinais, MCPO Ex. 1.0

[18] 54.5 miles versus 65.1 miles.

(RH) 2C at 17-18:388-405 and (MCPO Ex. 1.4 (RH)). However, it should be noted that this better performance of paralleling section lines for Route CFT can only be achieved by placing a significant number of additional residences both within 150 feet and within 500 feet of the proposed transmission line. (MCPO Ex. 1.2 (RH) 2C).

b. Mt. Zion to Kansas From Staff Substation Option #1 Location - (MZK-1 to CFT-1) - Comparison of Commission Routing Factors

If the Commission selects Staff's proposed Option #1 site for the Mt. Zion substation, the parties are currently offering two route alternatives for the Mt. Zion to Kansas portion of the IRP. ATXI, ICC Staff, and MCPO are supporting Route MZK-1, which consists of the ATXI Primary Route north from the Staff Option #1 site to the intersection with the May 10, 2013, ATXI/MCPO stipulated route from Mt. Zion to Kansas referred to in the direct testimony of MCPO witness Mr. Dauphinais in the original proceeding as "Route Segment MCPO MZK" and then east on route segment MCPO MZK to Kansas. (MCPO Ex. 1.0 at 10:177-184, MCPO Ex. 1.2, MCPO Corrected Ex. 2.2, MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 1, and ICC Staff Ex. 4.0 (Rehearing) at 17-18:352-368). PDM is supporting Route CFT-1, which consists of ATXI's Mt. Zion to Kansas Primary Route from Staff's Option #1 substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation, referred to in the direct testimony on rehearing of PDM witness Ms. Burns as the "Channon Hybrid Route" (PDM Ex. 7.0 at 4-5:59-75, MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 4). Other routes have been proposed in the past in this proceeding by ATXI and ICC Staff from the Staff Option #1 site for the Mt. Zion to

Kansas portion of the IRP. However, Route MZK-1 and Route CFT-1 are the only routes currently being actively proposed by the parties for use with the Staff Option #1 site (PDM Ex. 8.0 at 4:37-38). As a result, MCPO has confined the summary of routing factor performance below to only Route MZK-1 and Route CFT-1.

1. Length of the Line

Route MZK-1 is 9.6 miles (15.7%) longer in length Route CFT-1 (MCPO Ex. 2.2 RH Rev. at 1-3 of 4).[19] All else held equal, the length of a route affects its cost and adverse impact. However, caution must be used when using length of a route as a factor as often all else is not equal. This in particular is the case from Mt. Zion to Kansas as discussed below.

2. Difficulty and Cost of Construction

To the best of MCPO's knowledge, ATXI's witnesses have not identified any insurmountable difficulties with constructing Route MZK-1 or Route CFT-1.

In ATXI's response to data requests, baseline estimates for Routes MZK-1 and CFT-1 were provided (MCPO Ex. 1.5 (RH)). The baseline cost estimate for Route MZK-1 is approximately $17.8 million (15.0%) more than Route CFT-1.[20] However, Illinois customers will pay only 9% of the cost of the IRP due to MISO multi-value project cost sharing. Therefore, Illinois' customers pay only $1.6 million more for Route MZK -1 than for Route CFT-1. ($17.8 million x 9% = $1.6 million).

[19] 70.7 miles versus 61.1 miles.
[20] $135.92 million versus $118.17 million.

3. Difficulty and Cost of Operation and Maintenance

To the best of MCPO's knowledge, no witness specifically identified any differences between Route MZK-1 and Route CFT-1 with regard to the difficulty and cost of operation and maintenance.

4. Environmental Impacts

MCPO witness Mr. Reinecke presented routing factors for the Route MZK-1 and Route CFT-1 for what he described as minimally disturbed areas in MCPO Ex. 4.2 (RH) at 1 of 1. Minimally disturbed areas were defined as area within the 500-foot analysis corridor that has the least disturbed land use (i.e., deciduous forests, developed open spaces, emergent herbaceous wetlands, grassland/herbaceous, open water, pasture/hay, and woody wetlands land uses) that may contain undisturbed natural features. The fewer number of minimally disturbed acres represents a positive feature with regard to line route selection. Route MZK-1 has 27 (7.5%) fewer acres of minimally disturbed areas in the 500-foot study corridor area than Route CFT-1 (MCPO Ex. 4.2 (RH) at 1 of 1).[21]

5. Impacts on Historical Resources

MCPO has presented routing factors related to historical resources for both Route MZK-1 and Route CFT-1. Neither Route MZK-1 nor Route CFT-1 impact any National Register Historical Places, Known Historic Structures or Archeological Historic sites. There are three known archeological sites within the 500-foot study corridor for Route MZK-1 and no archeological sites within the 500-foot corridor for Route CFT-1 (MCPO Ex. 2.2 RH Rev. at 2 of 4). However, the Commission's final order at pages 98-99 states, "Of [the archeological sites] that may exist, none

[21] 332 acres versus 359 acres.

appear to impair the ability to construct any of the three lines. The MZK route does appear to be marginally preferable in that it is roughly two miles further from the historical Amish areas near the proposed routes." MCPO witness Mr. Reinecke indicates in his direct testimony that only one of the [three] sites within the 500-foot study corridor of Route MZK is actually crossed by Route MZK. (MCPO Ex. 2.0 at 8:426-432). Furthermore, Mr. Reinecke ultimately concluded the presence of this site would not prevent Route MZK from being constructed. (MCPO Ex. 2.0 at 20:457-463; MCPO Ex. 4.0 at 4-6:68-124).

6. Social and Land Use Impacts

MCPO witness Mr. Reinecke presented routing factors related to social and land use impacts for Route MZK-1 and Route CFT-1 in MCPO Exhibit 2.2 RH Rev. at 1 and 2. Of the social and land use factors, ATXI identified the public as favoring the following as some of the high sensitivity factors in Phase I of ATXI's public meetings:

- Cemeteries
- Churches
- Prime Farmland
- Schools

(ATXI Ex. 4.0 at 17:359-363).

Route MZK-1 and Route CFT-1 have no churches or cemeteries within their 500-foot study corridors. There is one (1) school site within the 500-foot corridor for Route MZK-1 and three (3) school sites for CFT-1.[22] (MCPO Ex. 2.2 RH Rev. at 2 of 4). Route MZK-1 has 108.4 (6.4%) more

[22] The school sites that have also been identified as schools in PDM Ex. 8.7 RH at 8 of 18 and ATXI Ex. 3.1RH at 2 of 4, could not be confirmed by Mr. Reinecke as having school buildings.

acres of Prime Farmland, within its 500-foot study corridor, than Route CFT-1 (MCPO Ex. 2.2 RH Rev. at 2 of 4).[23]

It should also be noted that Route MZK-1 is near the Tuscola Airport. In the August 20, 2013 Order the Commission concluded, "Other impacts under this criterion concern two airstrips: the Tuscola Airport along the MZK .... With regard to the Tuscola Airport, while the Commission does not take lightly the concerns of the airport owner, Moultrie PO's witness on this issue is persuasive. Construction of the MZK Route does not appear to be an impediment to the Tuscola Airport's continuing operation. Overall, the Commission finds that this criterion favors the MZK Route." (August 20 Order at 99).

Route MZK is located 2070 feet south of the Tuscola Airport. (Reinecke, MCPO Ex. 2.0 at 24:504).[24] The record shows that Route MZK complies with the Illinois Department of Transportation's rules and regulations on airport hazards. (Reinecke, MCPO Ex. 2.0 at 24:529-533).[25] Furthermore, ATXI witnesses have testified that Route MZK is "constructable." (Hackman, May 17 Tr. 1020-1022). Thus the record shows that Route MZK-1 is constructable, can be constructed, and is consistent with Illinois airport hazard requirements, if those requirements are applicable.

(MCPO Ex. 2.2 (RH) Rev. at 2 of 4; Tr. Dec. 18 at 245-247).

[23] 1792.0 acres versus 1683.6 acres.

[24] Route MZK and MZK-1 are identical near the area of the Tuscola Airport.

[25] He did not necessarily believe these hazard requirements specifically applied to the Tuscola Airport. ATXI witnesses have indicated that ATXI will comply with aviation related regulatory requirements. (Murphy, ATXI Ex. 4.0 at 42-43:484-486).

7. Number of Affected Landowners/Stakeholders

To the best of MCPO's knowledge, this information has not been quantified for either Route MZK-1 or Route CFT-1.

8. Proximity to Homes and Other Structures

In MCPO Ex. 2.2 RH Rev. at 4 of 4, Mr. Reinecke, drawing on information provided by ATXI, provided routing factor information with respect to the proximity to homes and structures. Within 75 to 150 feet, Route CFT-1 has 9 residences, while Route MZK-1 has none. In total, within 500 feet, Route MZK-1 has 19 (61.3%) fewer residences than Route CFT-1.[26] Within 75 feet of the centerline, Route CFT-1 has 6 non-residential structures that might have to be removed, while Route MZK-1 has none. In total, within 500 feet, Route MZK-1 specifically has 72 (55.8%) fewer non-residential structures than Route CFT-1 specifically.[27]

9. Proximity to Existing and Planned Development

Staff witness Mr. Rockrohr has testified in his surebuttal testimony that Route CFT-1 passes through a development area along Highway 121, east of Sullivan (ICC Staff Ex. 4.0 at 17:338-348).[28] To the best of MCPO's knowledge, no party has suggested Route MZK-1 passes through any areas of planned development.

10. Community Acceptance

Route MZK was a compromise among many parties. These parties include ATXI, MCPO, STPL, and Shelby County. Of the 15 property owners along any of the routes proposed from Mt.

[26] 12 versus 31 homes.

[27] 57 versus 129 non-residential structures.

[28] Staff suggested its route would avoid the Sullivan development area. (*Id.* at 17:341-348).

Zion to Kansas, only PDM opposed the stipulated route from Mt. Zion to Kansas (*See*, Borkowski, ATXI Ex. 7.0 (RH) at 9:175-188). The Staff and ATXI support the use of Route MZK-1. (Borkowski, ATXI Ex. 7.0 RH at 9:172-176; Rockrohr, Staff Ex. 4.0 at 17:352-357).

11. Visual Impact

ATXI witness Ms. Murphy did not tabulate any explicit routing factors related to visual impact. MCPO witness Mr. Dauphinais in his rebuttal testimony on rehearing discussed the use of the existing linear features to avoid introducing new visual impact where none already exists (MCPO Ex. 1.0 (RH) 2C at 16:357-364). Route MZK-1 parallels 13.7 (1,370.0%) more miles of existing transmission lines than the Route CFT-1.[29] (MCPO Ex. 2.3 (RH)). The Commission, in its Final Order at page 100, concluded that "Running the two lines parallel to one another will minimize the 345 kV line's visual impact."

12. Presence of Existing Corridors

MCPO witness Dauphinais in his direct testimony discussed the importance of considering the paralleling of existing linear features in terms of the length of the route not paralleling such features. By example, he showed that this is important because the routes being compared can potentially have significantly different lengths causing a significantly longer route to potentially appear to have less impact than a shorter route simply because the longer route also has more total miles of paralleling. (MCPO Ex. 1.0 (RH) 2C at 15:335-353) He also discussed at length that when evaluating such linear feature paralleling, it is important to work from the most significant type of existing linear feature to the least significant type of existing linear feature. He specifically

[29] 14.7 miles versus 1.0 mile

explained that not all existing linear features are the same with regard to their degree of visual impact, noise impact, environmental fragmentation and/or agricultural fragmentation. (MCPO Ex. 1.0 (RH) 2C at 16-17:354-387).

All MZK routes were clearly superior versus all CFT and ATXIA routes with regard to paralleling opportunities since existing transmission lines, major roads and railroads represent existing linear infrastructure with much more significant visual impact, noise impact, environmental fragmentation than minor roads, other utility right-of-way or Section Lines. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 14-18:327-414 and MCPO Ex. 1.4 (RH).

Mr. Dauphinais summarized his analysis of opportunities for route paralleling in MCPO Ex. 1.4 (RH). MCPO Ex. 1.4 (RH) reveals the relative performance in paralleling by Route MZK-1 versus Route CFT-1. As can be seen from MCPO Exhibit 1.4 (RH), Route MZK-1 has 4.1 (6.8%) fewer miles not parallel to existing transmission lines than Route CFT-1, which minimizes the potential for incremental adverse impacts for the MZK-2 route.[30] Furthermore, only when section lines are added into the analysis does Route CFT-1 have less distance not paralleling existing linear features (MCPO Ex. 1.4 (RH) and MCPO Ex. 1.0 (RH) at 17-18:388-405). However, it should be noted that this better performance of paralleling section lines for Route CFT-1 can only be achieved by placing a significant number of additional residences both within 150 feet and within 500 feet of the proposed transmission line.

[30] 56.0 miles versus 60.1 miles.

c. Mt. Zion to Kansas From Staff Substation Option #2 Location - (MZK-2 to CFT-2) - Comparison of Commission Routing Factors

If the Commission selects Staff proposed Option #2 site for the Mt. Zion substation, the parties are currently offering two route alternatives for the Mt. Zion to Kansas portion of the IRP. ATXI, ICC Staff, the Village of Mt. Zion and MCPO are supporting Route MZK-2, which consists of the ATXI Primary Route north from the Staff Option #2 site to the intersection with the May 10, 2013, ATXI/MCPO stipulated route from Mt. Zion to Kansas, referred to in the direct testimony of MCPO witness Mr. Dauphinais as "Route Segment MCPO MZK", and then east on route segment MCPO MZK to Kansas. (MCPO Ex. 1.0 at 10:177-184, MCPO Ex. 1.2, MCPO Corrected Ex. 2.2, MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 1, and ICC Staff Ex. 4.0 (Rehearing) at 17-18:352-368). This is the ATXI-Village of Mt. Zion stipulated route from Mt. Zion to Kansas. (*See*, ATXI/Mt. Zion Stip. Attachments A, B, and C on AXTI Ex. 6.0 RH at 4-7).

PDM is supporting Route CFT-2, which consists of ATXI's Mt. Zion to Kansas Primary Route from Staff's Option #2 substation site to the junction with ATXI's Mt. Zion to Kansas Alternate Route in East Nelson Township and then ATXI's Mt. Zion to Kansas Alternate Route from the junction to Kansas substation, referred to in the direct testimony on rehearing of PDM witness Ms. Burns as the "Channon Hybrid Route" (PDM Ex. 7.0 at 4-5:59-74, MCPO Ex. 1.0 (RH) 2C at 10:217-223, and MCPO Ex. 2.1 (RH) at 4). Other routes have been proposed in the past in this proceeding by ATXI and ICC Staff from the Staff Option #2 site for the Mt. Zion to Kansas portion of the IRP. However, Route MZK-2 and Route CFT-2 are the only routes currently being actively proposed by the parties for use with the Staff Option #2 site (PDM Ex. 8.0 at 4:37-38). As a result,

MCPO has confined the summary of routing factor performance below to only Route MZK-2 and Route CFT-2.

1. Length of the Line

Route MZK-2 is 8.3 miles (13.4 %) longer in length Route CFT-2 (MCPO Ex. 2.2 RH Rev. at 1-3 of 4).[31]

All else held equal, the length of a route affects its cost and adverse impact. However, caution must be used when using length of a route as a factor as often all else is not equal. This in particular is the case from Mt. Zion to Kansas as discussed below.

2. Difficulty and Cost of Construction

To the best of MCPO's knowledge, ATXI's witnesses have not identified any insurmountable difficulties with constructing Route MZK-2 or Route CFT-2.

In ATXI's response to data requests, baseline construction cost estimates for Routes MZK-2 and CFT-2 were provided (MCPO Ex. 1.5 (RH)). The baseline cost estimate for Route MZK-2 is approximately $15.2 million (12.7%) more than Route CFT-2. However, Illinois customers will pay only 9% of the cost of the IRP due to MISO multi-value project cost sharing. Therefore, those customers will only pay $1.36 million more in costs for the additional costs for construction of MZK-2 over Route CFT-2. ($15.2 million x .9% = $1.4 million)).

3. Difficulty and Cost of Operation and Maintenance

To the best of MCPO's knowledge, none of ATXI witness identified any differences between Route MZK-2 and Route CFT-2 with regard to the difficulty and cost of maintenance.

[31] 70.2 miles versus 61.9 miles.

4. Environmental Impacts

MCPO witness Mr. Reinecke presented routing factors for the Route MZK-2 and Route CFT-2 for what he described as minimally disturbed areas in MCPO Ex. 4.2 (RH) at 1 of 1. Minimally disturbed areas were defined as area within the 500-foot analysis corridor that has the least disturbed land (i.e., deciduous forest, developed open space, emergent herbaceous wetlands, grassland/herbaceous, open water, pasture/hay, and woody wetlands land uses) use that may contain undisturbed natural features. Route MZK-2 has 40 (11.0%) fewer acres of minimally disturbed areas in the 500-foot study corridor area than Route CFT-2 (MCPO Ex. 4.2 (RH) at 1 of 1).[32]

5. Impacts on Historical Resources

MCPO has presented routing factors related to historical resources for both Route MZK-2 and Route CFT-2. Neither Route MZK-2 nor Route CFT-2 impact any National Register Historical Places, Known Historic Structures or Archeological Historic sites. There are three known archeological sites within the 500-foot study corridor for Route MZK-2 and no archeological sites within the 500-foot corridor for Route CFT-2 (MCPO Ex. 2.2 RH Rev. at 2 of 4). However, the Commission states, "Of [the archeological sites] that may exist, none appear to impair the ability to construct any of the three lines. The MZK route does appear to be marginally preferable in that it is roughly two miles further from the historical Amish areas near the proposed routes." (August 20 Order at 98-99). MCPO witness Mr. Reinecke indicates in his direct testimony that only one of the archeological sites within the 500-foot study corridor of Route MZK is actually crossed by the

[32] 325 acres versus 365 acres.

easement for the Route.[33] (explanation added) (MCPO Ex. 2.0 at 19:426-432). Furthermore, Mr. Reinecke ultimately concluded the presence of this site would not prevent Route MZK from being constructed. (MCPO Ex. 2.0 at 20:457-463; MCPO Ex. 4.0 at 4-6:68-124).

6. Social and Land Use Impacts

MCPO witness Mr. Reinecke presented routing factors related to social and land use impacts for Route MZK-2 and Route CFT-2 in MCPO Exhibit 2.2 RH Rev. at 1 and 2. Of the social and land use factors, ATXI identified the public as favoring the following as some of the high sensitivity factors in Phase I of ATXI's public meetings:

- Cemeteries
- Churches
- Prime Farmland
- Schools

(ATXI Ex. 4.0 at 17:359-363).

Route MZK-2 and Route CFT-2 have no churches or cemeteries within their 500-foot study corridors. There is one (1) school site along Route MZK-2 versus three (3) school sites along CFT-2.[34] (MCPO Ex. 2.2 RH Rev. at 2 of 4). Route MZK-2 has 80.0 (4.7%) more acres of Prime Farmland, within its 500-foot study corridor, than Route CFT-2 (MCPO Ex. 2.2 RH Rev. at 2 of 4).[35]

It should also be noted that Route MZK-2 is in proximity to the Tuscola Airport. However,

[33] Route MZK-2 and Route MZK are the same route as they relate to these archeological sites.
[34] The school sites (that have also been identified as schools by PDM Ex. 8.7 RH at page 8 of 18 and ATXI Ex. 3.1 RH at 2 of 4), were not able to be confirmed by Mr. Reinecke as having school buildings. (MCPO Ex. 2.2 (RH) Rev. at 2 of 4; Tr. Dec 18 at 245-247).
[35] 1780.9 acres versus 1700.9 acres.

the Commission has already taken this fact into account. In the August 20, 2013 Order, the commission concluded, "Other impacts under this criterion concern two airstrips: the Tuscola Airport along the MZK .... With regard to the Tuscola Airport, while the Commission does not take lightly the concerns of the airport owner, Moultrie PO's witness on this issue is persuasive. Construction of the MZK Route does not appear to be an impediment to the Tuscola Airport's continuing operation. Overall, the Commission finds that this criterion favors the MZK Route." (August 20 Order at 99).

Route MZK is located 2070 feet south of the Tuscola Airport. (Reinecke, MCPO Ex. 2.0 at 24:504). The record shows that Route MZK complies with the Illinois Department of Transportation's rules and regulations on airport hazards. (Title 92, Ch. B, Pt. 16, Sec. 16 of the Illinois Administrative Code). (Reinecke, MCPO Ex. 2.0 at 24:529-533).[36] Furthermore, ATXI witnesses have testified that Route MZK is "constructable." (Hackman, May 17 Tr. 1020-1022). Thus the record shows that Route MZK is constructable, can be constructed, and is consistent with Illinois airport hazard requirements, if those requirements are applicable.

7. Number of Affected Landowners/Stakeholders

To the best of MCPO's knowledge, this information has not been quantified for either Route MZK-2 or Route CFT-2.

[36] He did not necessarily believe these hazard requirements specifically applied to the Tuscola Airport. ATXI witnesses have indicated that ATXI will comply with aviation related regulatory requirements. (Murphy, ATXI Ex. 4.0 at 46).

8. Proximity to Homes and Other Structures

In MCPO Ex. 2.2 RH Rev. at 4 of 4, Mr. Reinecke, drawing on information provided by ATXI, provided routing factor information with respect to the proximity to homes and structures. Within 75 to 150 feet, Route CFT-2 has 9 residences, while Route MZK-2 has none. In total, within 500 feet, Route MZK-2 has 19 (61.3%) fewer residences than Route CFT-2.[37] Within 75 feet of the centerline, Route CFT-2 has 6 non-residential structures while Route MZK-2 has none. In total, within 500 feet, Route MZK-2 specifically has 72 (55.8%) fewer non-residential structures than Route CFT-2 specifically.[38]

9. Proximity to Existing and Planned Development

ICC staff witness Mr. Rockrohr has testified in his surrebuttal testimony that Route CFT-2 passes through an area of planned development. Specifically, Route CFT-2 passes through a development area along Highway 121, east of Sullivan (ICC Staff Ex. 4.0 (RH) at 17:338-348).[39] To the best of MCPO's knowledge, Route MZK-2 does not pass through any areas of planned development.

10. Community Acceptance

Route MZK was a compromise among many parties. These parties include ATXI, MCPO, Village of Mt. Zion, STPL, and Shelby County. Of the 15 parties who represent property owners along any of the routes proposed from Mt. Zion to Kansas, only PDM opposes the stipulated route from Mt. Zion to Kansas (*See*, Borkowski, ATXI Ex. 7.0 (RH) at 9:175-188). Staff and ATXI and

[37] 12 versus 31 homes.
[38] 57 versus 129 non-residential structures
[39] Staff suggested its route would avoid the Sullivan development area. (*Id.* at 17:341-348).

the Village of Mt. Zion support the use of Route MZK-2. (*See*, ATXI Stip. Ex. 1 (RH), Attachments A, B, and C, AXTI Ex. 7.0 RH at 7-9:172-176; Rockrohr, Staff Ex. 4.0 at 17:352-357).

11. Visual Impact

MCPO witness Mr. Dauphinais in his rebuttal testimony on rehearing discussed the use of the existing linear features to avoid introducing new visual impact where none already exists (MCPO Ex. 1.0 (RH) 2C at 16:357-364). Route MZK-2 parallels 13.7 (1,370.0%) more miles of existing transmission lines than the Route CFT-2.[40] (MCPO Ex. 2.3 (RH)). The Commission, in its Final Order at page 100, concluded that "Running the two lines parallel to one another will minimize the 345 kV line's visual impact.

12. Presence of Existing Corridors

MCPO witness Dauphinais in his direct testimony discussed the importance of considering the paralleling of existing linear features in terms of the length of the route not paralleling such features. By example, he showed that this is important because the routes being compared can potentially have significantly different lengths causing a significantly longer route to potentially have less impact than a shorter route because the longer route also has more total miles of paralleling. (MCPO Ex. 1.0 (RH) 2C at 15:335-353) He also discussed at length that when evaluating such linear feature paralleling, it is important to work from the most significant type of existing linear feature to the least significant type of existing linear feature. He specifically explained that not all existing linear features are the same with regard to their degree of visual

[38] 14.7 miles versus 1.0 mile.

impact, noise impact, environmental fragmentation and/or agricultural fragmentation. (MCPO Ex. 1.0 (RH) 2C at 16-17:354-387).

All MZK routes were clearly superior versus all CFT and ATXIA routes with regard to paralleling opportunities since existing transmission lines, major roads and railroads represent existing linear infrastructure with much more significant visual impact, noise impact, environmental fragmentation than minor roads, other utility right-of-way or Section Lines. (Dauphinais, MCPO Ex. 1.0 (RH) 2C at 14-18:327-414 and MCPO Ex. 1.4 (RH).

Mr. Dauphinais summarized his analysis of opportunities for route paralleling in MCPO Ex. 1.4 (RH). Route paralleling opportunities represent opportunities to minimize incremental adverse impacts due to the presence of an existing line structure. MCPO Ex. 1.4 (RH) reveals the relative performance in paralleling by Route MZK-2 versus Route CFT-2. As can be seen from MCPO Exhibit 1.4 (RH), Route MZK-2 has 5.3 (6.3%) fewer miles not parallel to existing transmission lines than Route CFT-2, thereby increasing the opportunities to minimize incremental adverse impacts compared to the CFT route.[41] Furthermore, only when section lines are added into the analysis does Route CFT-2 have less distance not paralleling existing linear features (MC PO Ex. 1.4 (RH) and MCPO Ex. 1.0 (RH) at 17-18:388-405). However, it should be noted that this better performance of paralleling section lines for Route CFT-2 can only be achieved by placing a significant number of additional residences both within 150 feet and within 500 feet of the proposed transmission line.

[41] 55.5 miles versus 60.8 miles.

CONCLUSION

On rehearing, MCPO analyzed a number of permutations of line routes for the Mt. Zion to Kansas segment of the IRP, based on the possible line routes that remain relevant at this stage of the proceedings and the viable options for the location of the Mt. Zion substation. The line routes that remain in play on rehearing at this time are the MCPO/ATXI Stipulated Route (MZK, MZK-1 and MZK-2) and the Channon Family Trust Hybrid Route (CFT, CFT-1 and CFT-2). Due to reliability and other factors, the Mt. Zion substation locations that remain potentially viable from a reliability perspective are the Sulphur Springs site and Staff Options 1 and 2. However, as discussed above, for any of these routes and substation locations, the routes proposed by MCPO significantly outperform all other potential routes, or permutations of them, when all relevant factors are considered in a holistic context. The superiority of the MZK Routes is truly demonstrated when a primary consideration is given, as it should be, to the actual impact on human beings, reflected by the proximity of a large high voltage 345 kV lines to residential structures, as opposed to the mainly economic impacts on farmland, prime or otherwise. These impacts on human beings include, among others, health and safety concerns in the event a line goes down as the result of storms or other causes, and aesthetic and quality of life considerations resulting from having to view and live with high tension transmission structures within a few hundred feet of one's home. In this important criterion, all of the MZK routes impact nine (9) fewer residential structures within 150 feet of the centerline, regardless of substation location, than the CFT routes advocated by PDM. Within 500 feet of a centerline, the MZK routes impact nineteen (19) fewer residential structures than the CFT routes (MCPO Ex. 2.2 RH Rev. at 4). There are no structures that have to be removed on the MZK

route, while there are as many as six (6) non-residential structures that will have to be removed on the CFT routes. (*Id.*).

In addition, as discussed in detail herein, the MZK routes outperform other routes in a number of other areas, such as minimization of: adverse impacts through the better use of paralleling opportunities; impacts on non-residential structures; and the impact on land that has not been previously disturbed by development or other factors. Although the MZK routes are somewhat longer and costlier to build, the decreased adverse impact on residents, together with the other advantages of the MZK routes discussed above, should outweigh these length and cost considerations. This is especially true because, due to the MISO market value projects cost sharing provisions, Illinois customers will only incur about 9% of the additional cost. Thus the actual impact on Illinois customers due to the MZK route is estimated to be between $450,000 and $1.6 million, depending on substation location.

For these and all the reasons discussed herein, MCPO concludes that, regardless of substation location, the Commission should approve the associated MZK routes from Mt. Zion to Kansas.

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PROOF OF SERVICE

STATE OF ILLINOIS :
: SS
COUNTY OF MADISON :

I, Eric Robertson, being an attorney admitted to practice in the State of Illinois and one of the attorneys for Moultrie County Property Owners, Inc., herewith certify that I did on the 30th day of December, 2013, electronically file with the Illinois Commerce Commission, the Initial Brief on Rehearing of the Moultrie County Property Owners, Inc., and electronically served same upon the persons identified on the Commission's official service list.

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SUBSCRIBED AND SWORN to me, a Notary Public, on this 30th day of December, 2013.

Notary Public

"OFFICIAL SEAL"
BARBARA BRANDT
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES JULY 7, 2015